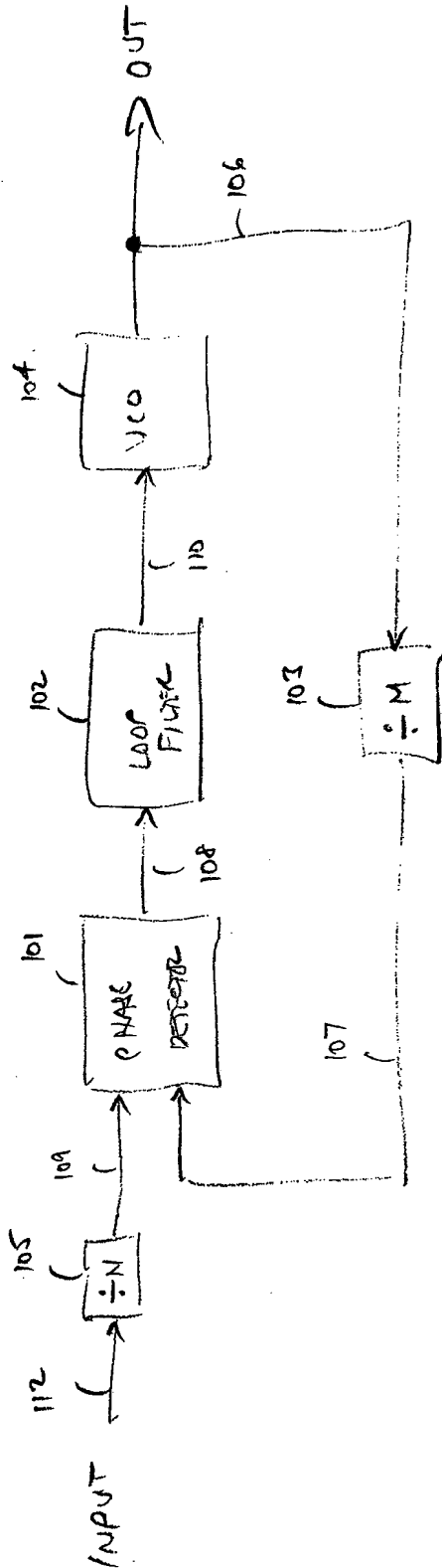


Fig. 1  
(PRIOR ART)



$$f_{out} = f_{in} \frac{M}{N}$$

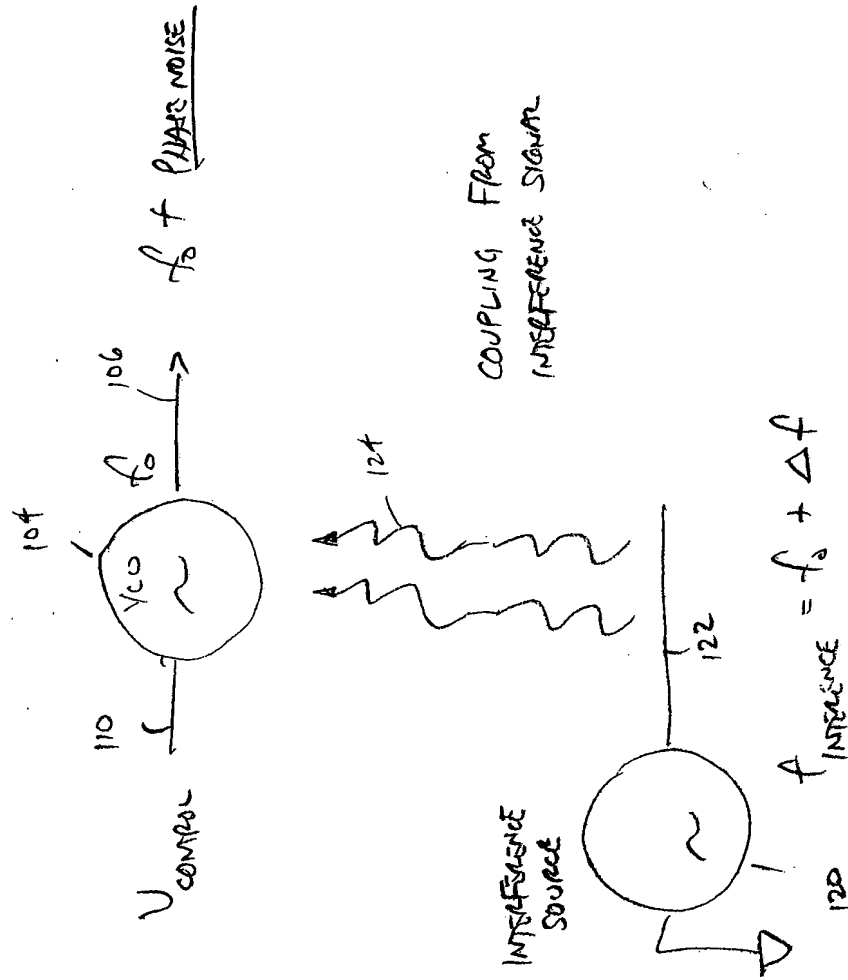
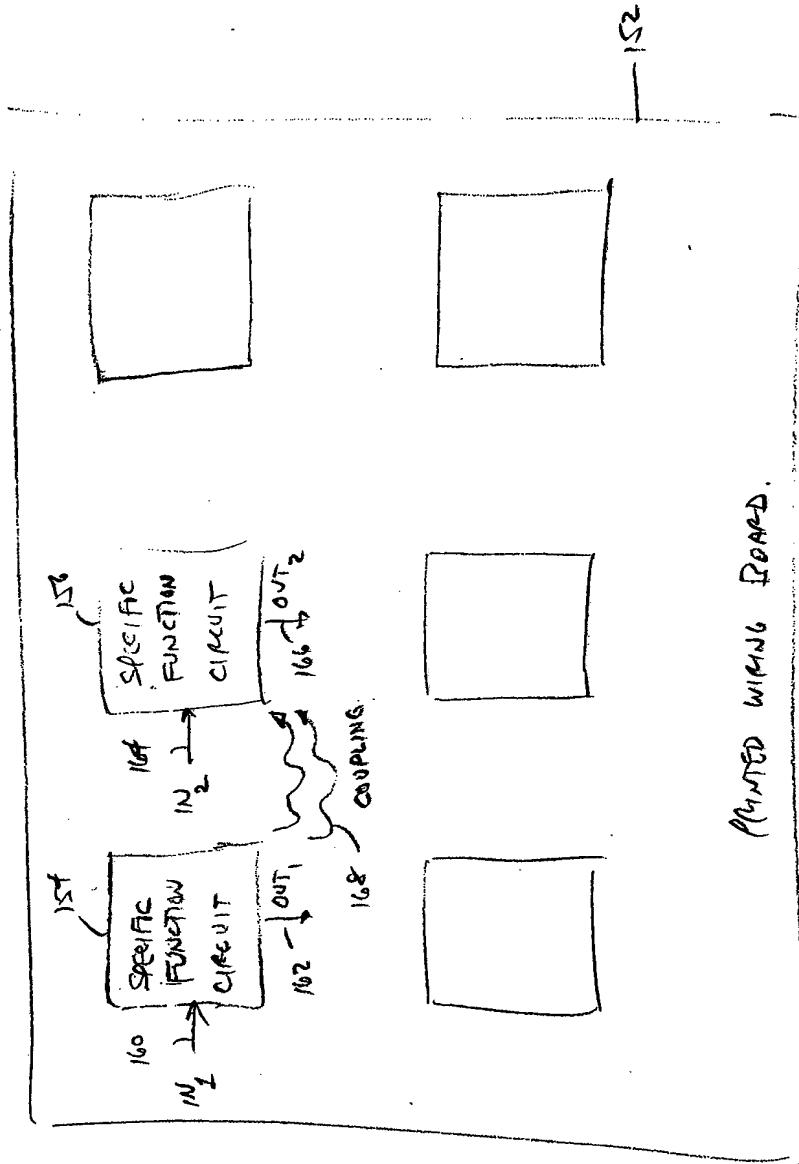


Fig. 2

Fig. 3



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# DUAL PLL ARCHITECTURE

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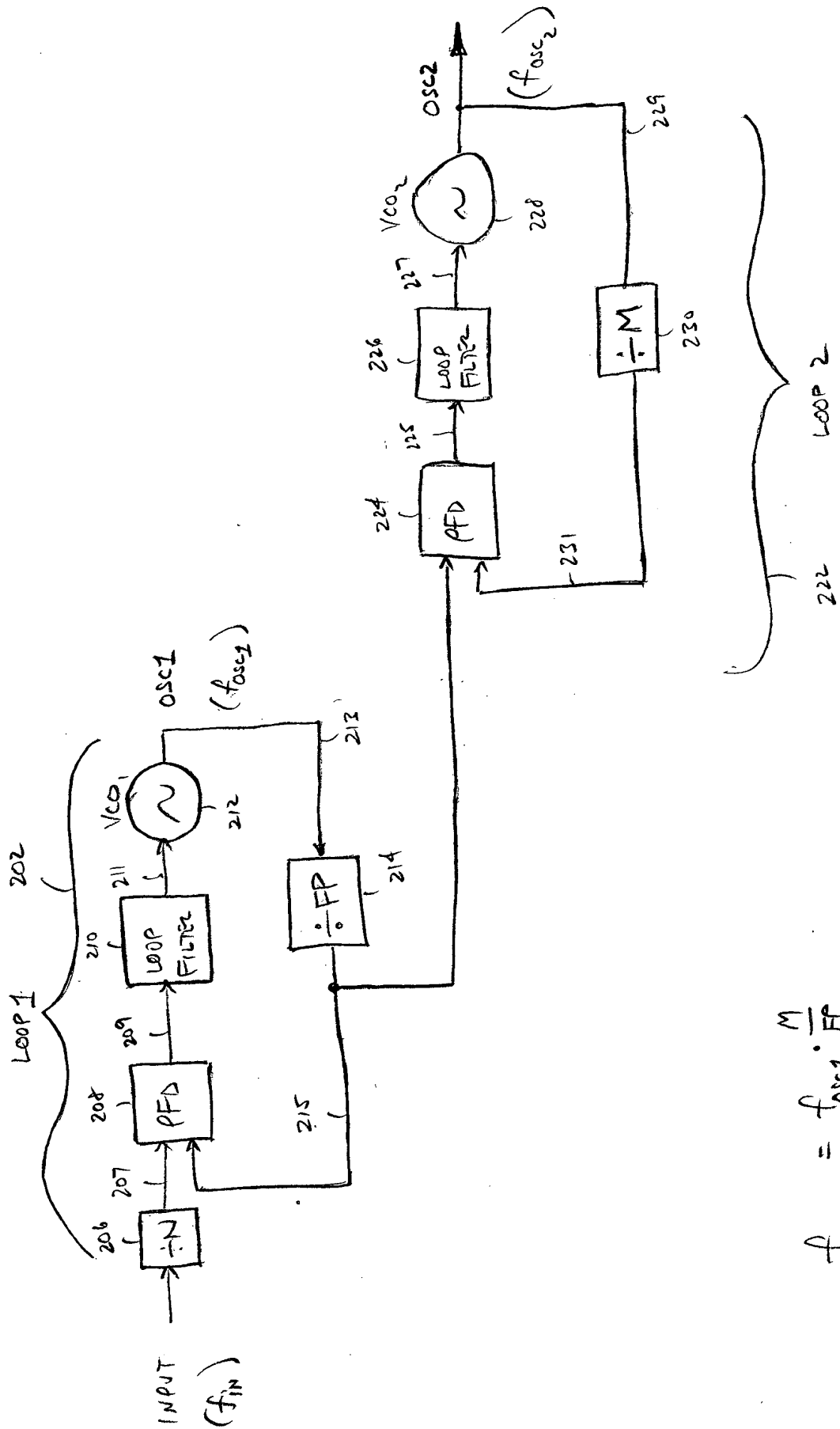
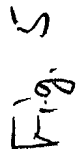


Fig. 4

$$\begin{aligned}
 f_{osc2} &= f_{osc1} \cdot \frac{M}{FP} \\
 &= \left( f_{in} \cdot \frac{FP}{N} \right) \cdot \frac{M}{FP} \\
 &= f_{in} \cdot \frac{M}{N}
 \end{aligned}$$



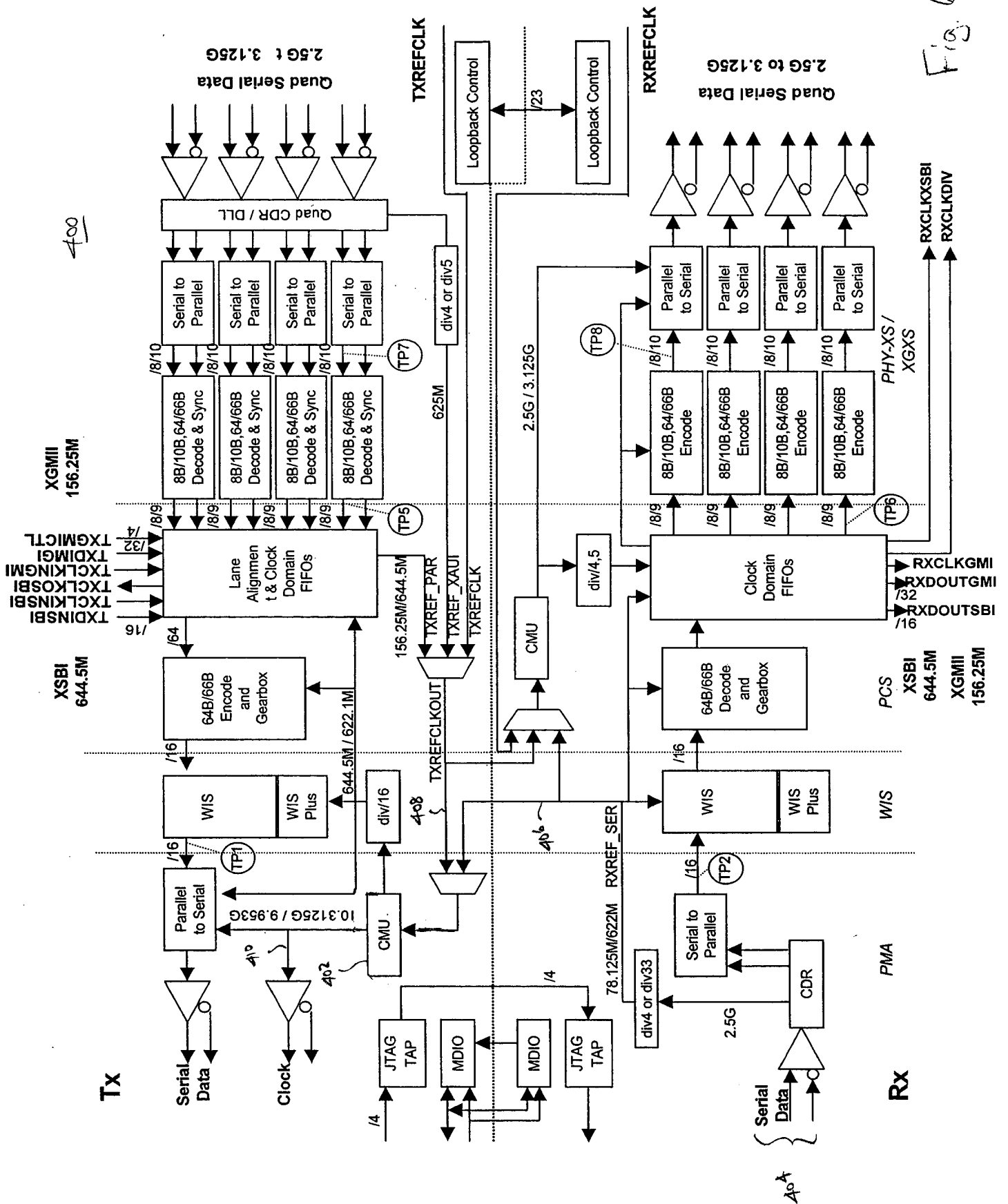


Fig. 6

(Fiber-Optic System Example)

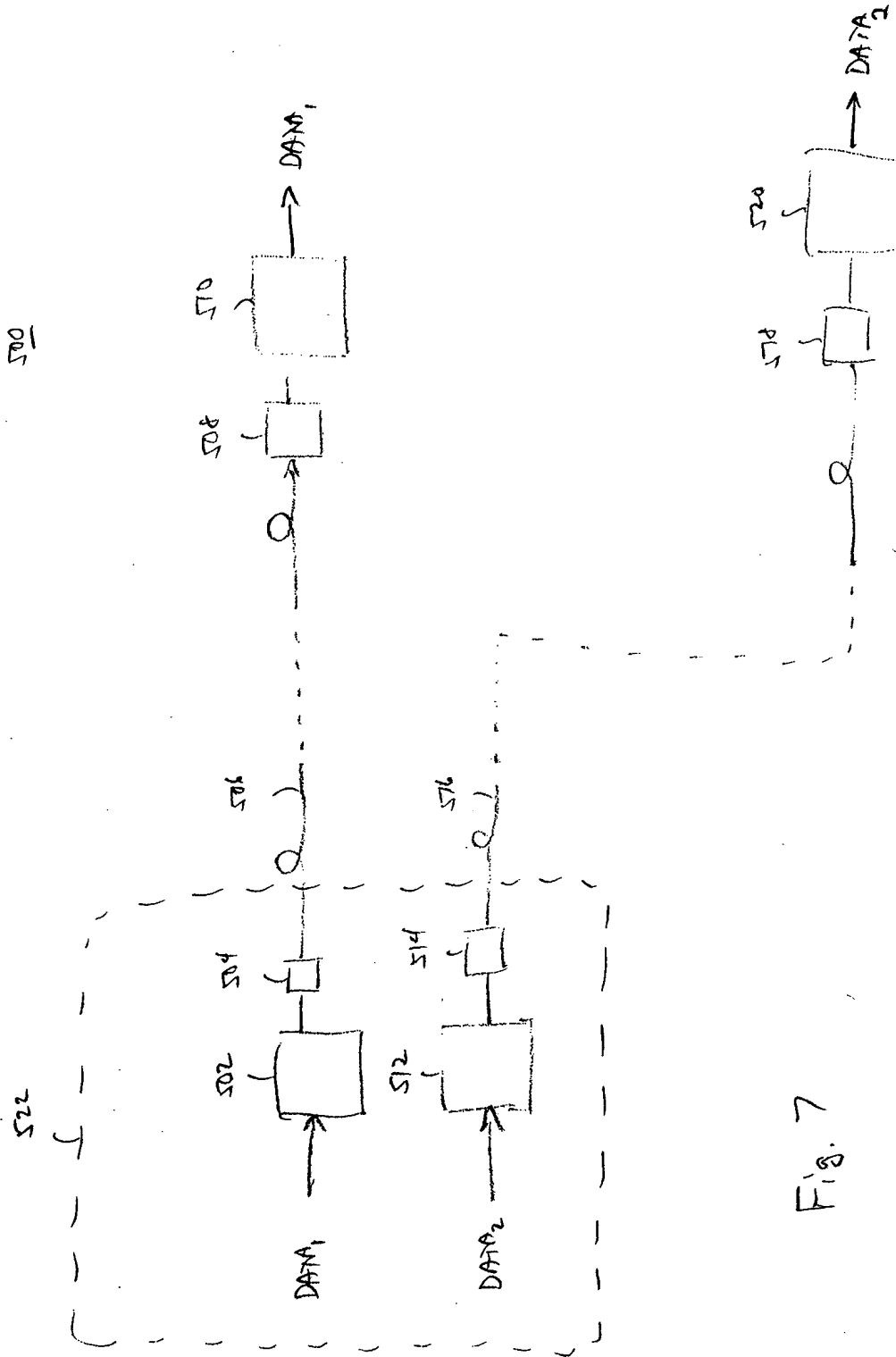


Fig. 7